

REMARKS

In the Office Action, dated April 25, 2006, the Examiner rejected claims 1-3, 9, 10, 14, 17 and 19 under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,798,743 (hereinafter "MA"). The Examiner further rejected claims 4, 11, 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over MA in view of U.S. Patent Application Publication No. 2002/0118691 A1 (hereinafter "LEFEBVRE"). Applicants note with appreciation the Examiner's indication of allowable subject matter in claims 8, 13, 18 and 20.

By way of this amendment, Applicants have amended claims 1, 3, 9, 10 and 14-16 to improve form. New claim 21, that incorporates the subject matter of allowable claim 20, has been added. New claim 22, that incorporates the subject matter of allowable claim 8, has also been added. No new matter has been added by the present amendment. Claims 1-4, 8-11 and 13-22 are pending. Reconsideration of the outstanding rejections is respectfully requested in view of the amendments above and the following remarks.

In paragraph 4, the Office Action rejects claims 1-3, 9, 10, 14, 17 and 19 under 35 U.S.C. §102(e) as allegedly being anticipated by MA. Applicants respectfully traverse.

Amended independent claim 1, for example, recites a "system for identifying priority level information for a data frame received by a network device" that includes "a plurality of input ports configured to receive a plurality of data frames, each of the received data frames specifying at least one of a plurality of classes of service," "a memory configured to store a plurality of priority levels, one for each of the plurality of classes of service, wherein the memory includes one of a plurality of registers or a lookup table," "an action generator configured to generate an action tag for each of the received data frames, wherein the action generator

includes: an action memory configured to store a plurality of entries, a decoder configured to identify one of the entries in the action memory in response to the received data frames, and a tag generator configured to generate the action tags based on the identified entries,” and “a port vector queue configured to use the action tag from the action generator for each of the received data frames to access the memory to retrieve one of the stored priority levels that corresponds to a class of service specified by each of the received data frames.”

A proper rejection under 35 U.S.C. §102 requires that a reference teach every aspect of the claimed invention. See M.P.E.P. § 2131. MA does not disclose or suggest the combination of features recited in amended claim 1.

For example, MA does not disclose or suggest “memory configured to store a plurality of priority levels, one for each of the plurality of classes of service” or “a port vector queue configured to use the action tag from the action generator for each of the received data frames to access the memory to retrieve one of the stored priority levels that corresponds to a class of service specified by each of the received data frames,” as recited in amended claim 1. The Examiner relied on column 9, line 32; column 9, line 44; column 11, line 14; column 9, line 47; column 11, line 13; column 9, line 62 and column 11, lines 61-62 for allegedly disclosing the “memory” and “port vector queue” noted above. Applicants respectfully submit that these sections of MA do not disclose or suggest the above noted features of amended claim 1.

At column 9, lines 29-67, MA discloses:

Referring to FIG. 7, a router 700 is shown which includes multiple input interfaces 701 each having a respective input interface line or card. Each input interface line may have one or more queued packets waiting to be processed and routed by router 700. Additionally, each queued packet may have a different associated priority level which specifies the particular Quality of Service (QoS)

level to be used when handling that packet. Each computer network may support a variety of different QoS priority levels, which may include, for example, high priority service for multimedia traffic (e.g., voice and/or video streams), and low priority service for best effort traffic. Further, the best effort traffic may also be subdivided into a plurality of differentiated priority levels within the best-effort class.

When a packet at the input interface is processed by router 700, the packet is first dequeued from the input interface, and is then decapsulated from its data link frame, which is represented in FIG. 7 by decapsulation block 702. After decapsulation, the packet undergoes classification at 704, whereupon the associated priority level of the packet is determined. In case that QoS features are supported (such as, for example, sophisticated queuing, traffic engineering, congestion control, security checking, and/or policy routing), the packet classification may also need to identify a particular flow or traffic class to which the packet belongs. Additionally, other processing events (not shown) may occur before classification such as, for example, checksumming, wherein the number of bytes in the packet is verified before commencing with further processing of the packet. An additional processing event may include access list verification (706). Thereafter, the appropriate output interface for the packet is then determined by a Forwarding Information Base (FIB) look-up (sometimes referred to as Routing Table look-up), as shown at 708. The packet is then encapsulated and routed to its appropriate output interface queue within QoS output queuing structure 710. Typically, each queue (e.g., Q0, Q1, etc.) is a separate FIFO queue representing a distinct priority level of the QoS priority classes.

This section of MA discloses that each packet indicates a priority level that specifies the particular Quality of Service (QoS) level that is to be used when handling the packet. Based on classification of the packet, using the priority level indicated by the packet, the packet is queued in a separate queue representing a distinct priority level. This section of MA, thus, does not disclose or suggest a memory that stores a plurality of priority levels, one for each of multiple classes of service associated with received data frames, or a queue that retrieves one of the stored priority levels that corresponds to a class of service specified by each of the received data frames, as recited in amended claim 1.

At column 11, lines 8-16, MA discloses:

In accordance with the technique of the present invention, a two-phase packet processing technique is provided for processing packets at router 800 (FIG. 8A). During Phase 1, packets are dequeued from the input interface 801 and preprocessed. In a specific embodiment, the preprocessing includes packet decapsulation and classification in order to identify the associated priority level of each processed packet to thereby determine whether or not a particular packet is delay-sensitive.

This section of MA discloses the decapsulation of a received packet and classification of the packet to identify its associated priority level. This section of MA does not disclose, or even suggest, a memory that stores a plurality of priority levels, one for each of multiple classes of service associated with received data frames, or a queue that retrieves one of the stored priority levels that corresponds to a class of service specified by each of the received data frames, as recited in amended claim 1.

At column 11, lines 61-65, MA discloses:

The intermediate data structure 814 may be any data structure suitable for storing and retrieving packets. Examples of data structures include an array of queues (FIG. 8B), a linked list, a priority queue, a calendar queue, a binary tree, a binary heap, a FIFO queue, etc.

This section of MA discloses a data structure 814 for storing received packets. This section of MA does not disclose or suggest a memory that stores a plurality of priority levels, one for each of multiple classes of service associated with received data frames, or a queue that retrieves one of the stored priority levels that corresponds to a class of service specified by each of the received data frames, as recited in amended claim 1.

As discussed above, the sections of MA cited by the Office Action do not disclose or suggest the combination of features recited in amended claim 1. Withdrawal of the rejection of claim 1 under 35 U.S.C. §102(e) is, therefore, respectfully requested.

Claims 2 and 3 depend from claim 1 and, therefore, patentably distinguish over MA for at least the reasons set forth above with respect to claim 1.

Amended independent claim 9, though having a different scope than claim 1, recites similar features to those discussed above with respect to claim 1. Claim 9, therefore, patentably distinguishes over MA for similar reason to those set forth above with respect to claim 1.

Claim 10 depends from claim 9 and, therefore, patentably distinguishes over MA for at least the reasons set forth above with respect to claim 9.

Amended independent claim 14, though having a different scope than claim 1, recites similar features to those discussed above with respect to claim 1. Claim 14, therefore, patentably distinguishes over MA for similar reason to those set forth above with respect to claim 1.

Claims 17 and 19 depend from claim 14 and, therefore, patentably distinguish over MA for at least the reasons set forth above with respect to claim 14.

In paragraph 6, the Office Action rejects claims 4, 11, 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over MA in view of LEFEBVRE. The Office Action cites LEFEBVRE as allegedly disclosing a “memory that is preprogrammed with the priority level information” and a “memory that includes a plurality of registers.” Applicants submit, however, that the disclosure of LEFEBVRE does not remedy the deficiencies in

the disclosure of MA noted above with respect to claims 1, 9 and 14, from which claims 4, 11 and 15 and 16 depend respectively. Withdrawal of the rejection of these claims is, therefore, respectfully requested for at least the reasons set forth above with respect to claims 1, 9 and 14.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims. To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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